AMENDMENTS TO THE CLAIMS

This listing of claims will replace the listing of claims submitted in the prior Amendment and Reply Under 37 CFR § 1.111 dated May 7, 2007 in response to the Official Action dated January 25, 2007.

Listing of Claims:

1. (Currently amended) A transgenic plant cell comprising [[a]] an Oxidoreductase Stress-Related Protein (ORSRP) coding nucleic acid, wherein the nucleic acid comprises the nucleotide sequence as set forth in SEQ ID NO: 3 or a homolog thereof, wherein the homolog encodes a protein having an amino acid sequence with at least 80% identity with the sequence as set forth in SEQ ID NO: 4, wherein expression of said nucleic acid in the plant cell results in increased tolerance to an environmental stress associated with salinity, drought, temperature, metal, chemical, pathogenic and/or oxidative stresses as compared to a ~~corresponding non-transformed~~ non-transgenic wild type plant cell, and wherein the ORSRP is a heat-stable glutaredoxin or thioredoxin protein.

2-4. (Canceled)

5. (Currently amended) The transgenic plant cell of claim 1, wherein the ~~ORSRP coding nucleic acid is selected from the group consisting of SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49 and~~ homolog[[s]] ~~thereof~~ encodes a protein having an amino acid sequence with at least 90% identity with the sequence as set forth in SEQ ID NO: 4.

6-7. (Canceled)

8. (Previously presented) The transgenic plant cell of claim 1 wherein the plant cell is derived from a monocotyledonous plant.

9. (Previously presented) The transgenic plant cell of claim 1 wherein the plant cell is derived from a dicotyledonous plant.

10. (Previously presented) The transgenic plant cell of claim 1, wherein the plant cell is derived from a plant selected from the group consisting of maize, wheat, rye, oat, triticale, rice, barley, soybean, peanut, cotton, rapeseed, canola, manihot, pepper, sunflower, borage, safflower,

linseed, primrose, rapeseed, turnip rape, tagetes, solanaceous plants, potato, tobacco, eggplant, tomato, Vicia species, pea, alfalfa, coffee, cacao, tea, Salix species, oil palm, coconut, perennial grass, forage crops and Arabidopsis thaliana.

11. (Previously presented) The transgenic plant cell of claim 1 wherein the plant cell is derived from a gymnosperm plant.

12. (Canceled)

13. (Currently amended) A transgenic plant comprising [[a]] the plant cell according to claim 1, wherein the transgenic plant ~~and which~~ is a monocot or dicot plant.

14. (Canceled)

15. (Currently amended) A transgenic plant comprising [[a]] the plant cell according to claim 1, wherein the transgenic plant ~~and which~~ is a gymnosperm plant.

16-17. (Canceled)

18. (Currently amended) A plant expression cassette comprising [[a]] an ORSRP coding nucleic acid ~~selected from the group consisting of SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, and 49 or parts thereof~~ having the nucleotide sequence as set forth in SEQ ID NO: 3 or a homolog thereof operatively linked to a regulatory sequence[[s]] and/or a targeting sequence[[s]] for directing the ORSRP to appropriate cell compartment, wherein the homolog encodes a protein having an amino acid sequence with at least 80% identity with the sequence as set forth in SEQ ID NO: 4 and having the activity of an ORSRP.

19. (Currently amended) An expression vector comprising [[a]] an ORSRP encoding nucleic acid ~~selected from the group consisting of SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, and 49 or parts thereof~~ having the nucleotide sequence as set forth in SEQ ID NO: 3 or a homolog thereof, wherein the homolog encodes a protein having an amino acid sequence with at least 80% identity with the sequence as set forth in SEQ ID NO: 4 and having the activity of an ORSRP, or [[a]] the plant expression cassette of claim 18, whereby expression of the ORSRP coding nucleic acid in a host cell results in increased tolerance to environmental stress as compared to a wild type host cell.

20. (Canceled)

21. (Withdrawn) An isolated Oxidoreductase Stress Related Protein (ORSRP) which is selected from the group consisting of SEQ ID NO: 16, 18, 20, 22, 24, 44 and 50.

22-24. (Canceled)

25. (Withdrawn) An isolated Oxidoreductase Stress Related Protein (ORSRP) encoding a nucleic acid selected from the group consisting of SEQ ID NO: 15, 17, 19, 21, 23, 45 and 49.

26-28. (Canceled)

29. (Currently amended) A method of producing a transgenic plant comprising an ORSRP coding nucleic acid, wherein expression of the nucleic acid in the transgenic plant results in increased tolerance to environmental stress associated with salinity, drought, temperature, metal, chemical, pathogenic and/or oxidative stresses as compared to a ~~corresponding non-transformed~~ non-transgenic wild type plant, comprising

a) transforming a plant cell with an expression vector comprising the nucleic acid,

b) generating from the plant cell the transgenic plant with an increased tolerance to environmental stress as compared to a corresponding wild type plant,

wherein the nucleic acid comprises the nucleotide sequence as set forth in SEQ ID NO: 3 or a homolog thereof, wherein the homolog encodes a protein having an amino acid sequence with at least 80% identity with the sequence as set forth in SEQ ID NO: 4, and wherein the ORSRP is a heat-stable glutaredoxin or thioredoxin protein.

30-31. (Canceled)

32. (Currently amended) The method of claim 29, wherein the ~~ORSRP coding nucleic acid is selected from the group consisting of SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49 and~~ homolog[[s]] ~~thereof~~ encodes a protein having an amino acid sequence with at least 90% identity with the sequence as set forth in SEQ ID NO: 4.

33. (Canceled)

34. (Withdrawn) A method of modifying stress tolerance of a plant comprising, modifying the level of expression of an ORSRP in the plant, wherein the ORSRP is a heat-stable glutaredoxin or thioredoxin protein.

35-40. (Canceled)

41. (Withdrawn) The method of claim 34, wherein the plant is transgenic.

42-44. (Canceled)

45. (Withdrawn) The method of claim 34, wherein ORSRP expression is modified by administration of an antisense molecule and/or by double stranded RNA interference that inhibits expression of ORSPR.

46. (Canceled)

47. (Currently amended) A method for preparing a plant cell with increased ~~environmental stress~~ tolerance to an environmental stress associated with salinity, drought, temperature, metal, chemical, pathogen and/or oxidative stresses comprising transforming [[a]] the plant cell with [[a]] an ORSRP ~~encoding~~ coding nucleic acid ~~selected from the group consisting of SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49 and homologs thereof~~ comprising the nucleotide sequence as set forth in SEQ ID NO: 3 or a homolog thereof, wherein the homolog encodes a protein having an amino acid sequence with at least 80% identity with the sequence as set forth in SEQ ID NO: 4 and having the activity of an ORSRP, and expressing the ORSRP coding nucleic acid in the plant cell.

48. (Canceled)

49. (Currently amended) A method for selection of plants with increased ~~environmental stress~~ tolerance to an environmental stress associated with salinity, drought, temperature, metal, chemical, pathogen and/or oxidative stresses comprising utilizing a ORSRP ~~encoding~~ coding nucleic acid ~~selected from the group consisting of SEQ ID NO: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49 and homologs thereof or parts thereof~~ comprising the nucleotide sequence as set forth in SEQ ID NO: 3 or a homolog thereof, wherein the homolog encodes a protein having an amino acid sequence with at least 80% identity with the sequence as set forth in SEQ ID NO: 4 and having the activity of an ORSRP as a DNA marker,

and selecting the plants with increased tolerance to an environmental stress associated with salinity, drought, temperature, metal, chemical, pathogenic and/or oxidative stresses.

50. (Canceled)